

Notice of Allowability

Application No.

10/827,388

Examiner

Andy Huynh

Applicant(s)

HUANG, YIDONG

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Preliminary Amendment of 04/19/2004.
2. ☒ The allowed claim(s) is/are 9, 10, 18 and 19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/336,520.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 04/19/04, 05/25/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Andy Huynh
Patent Examiner
AU 2818

DETAILED ACTION

In the Preliminary Amendment dated April 19, 2004, Claims **1-8 and 11-17** have been canceled. The specification and Claims **9 and 10** have been amended. New Claims **18 and 19** have been added. Accordingly, Claims **9, 10, 18 and 19** are pending in the application, which is a Divisional of Application No. 10/336,520 filed 01/03/2003.

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

The title of the invention has been changed as follows:

–Phase-shifted distributed feedback type semiconductor laser diode capable of improving wavelength chirping and external reflection return light characteristics--.

Allowable Subject Matter

Claims **9, 10, 18 and 19** are allowed.

The following is an examiner's statement of reason for allowance:

Claims **9 and 18** are allowable over the prior art of record because the prior art of record does not teach or render obvious a distributed feedback type semiconductor layer diode

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comprising a 1.0% or more compression-strained AlGaInAs multiple quantum well active layer formed on the AlGaInAs optical guide layer, wherein $\kappa L + 0.05 \cdot \Delta\lambda \geq 3.0$ where κ is a coupling coefficient of the diffraction grating, L is a cavity length of the diode, $\Delta\lambda$ is a detuning amount denoted by $\Delta\lambda = \lambda_g - \lambda$ where λ_g is a gain peak wavelength of the diode and λ is an oscillation wavelength of the diode, and in combination with all other features as recited in independent Claim 9.

Claims 10 and 19 are allowable over the prior art of record because the prior art of record does not teach or render obvious a distributed feedback type semiconductor layer diode comprising a 1.0% or more tensile-strained AlGaInAs multiple quantum well active layer formed on the AlGaInAs optical guide layer, wherein $\kappa L + 0.05 \cdot \Delta\lambda \geq 3.0$ where κ is a coupling coefficient of the diffraction grating, L is a cavity length of the diode, $\Delta\lambda$ is a detuning amount denoted by $\Delta\lambda = \lambda_g - \lambda$ where λ_g is a gain peak wavelength of the diode and λ is an oscillation wavelength of the diode, and in combination with all other features as recited in independent Claim 10.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy Huynh whose telephone number is (571) 272-1781. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Andy Huynh

Patent Examiner